REMARKS

I. Status of the Claims

A. Election of Species

In response to the Office's withdrawal of claims 4, 8 and 9 from further consideration as being directed to non-elected subject matter, Applicant respectfully submits that the withdrawal of claim 8 is improper.

Applicant interprets the present Office Action, at page 2 paragraph 3, to state that the claims will be examined to the extent that they read on a composition comprising the isopropylamine salt of N-(phosphonomethyl)glycine and one, two or three fatty acids or salts thereof, wherein one is pelargonic acid or a salt thereof. As amended, claim 8 is directed to such a composition; specifically, claim 8 is directed to a composition comprising the isopropylamine salt of N-(phosphonomethyl)glycine and a fatty acid active ingredient comprising the sodium or potassium salts of pelargonic acid, capric acid and coconut fatty acid at a weight ratio of 1:1:2.

In as much as claim 8 clearly reads on the elected subject matter, as expanded by the Office, Applicant respectfully submits that this claim should be examined. Accordingly, reconsideration of the withdrawal of claim 8 is respectfully requested.

Furthermore, in as much as new claims 13-22 also read on the elected subject matter, as expanded by the Office, Applicant respectfully submits that these claims should be examined, as well.

B. Claim Amendments

Prior to this Amendment B, claims 1 through 12 were pending. In this Amendment, claims 1, 2, 7, 8 and 12 have been amended, while claims 13-22 have been added. Accordingly, claims 1-22 are now pending.

Claim 1 has been amended for purposes of clarification and to more specifically claim certain preferred embodiments of the present invention. Support for amended

claim 1 may be found in the specification, for example, on: (i) page 8, lines 16-22 (second paragraph), which identifies N-(phosphonomethyl)glycine and its salts as suitable "glyphosate-based" active ingredients; and, (ii) page 10, lines 5-10 (first paragraph).

In addition, claims 2, 7, 8 and 12 have been amended for purposes of clarification, claim 2 being amended in view of the changes to claim 1 and claims 7, 8 and 12 being amended to clarify that the ratios referenced therein are weight ratios.

Finally, support for new claims 13-22 may be found in the specification, for example, as follows:

claim 13:	page 10, lines 5-10 (first paragraph), wherein suitable concentrations of fatty acid in the composition that are "at least about 0.5 percent by weight" are provided, as well as Example 1 (see, e.g., herbicides 2 and 3, which contain at least about 0.5 percent fatty acid by weight); and,
claims 14-22:	see, e.g., claims 2, 3, 6-8, 12, 10, 5 and 11, respectively.

II. 35 U.S.C. §112, Second Paragraph

Reconsideration is respectfully requested of the rejection of claims 1, 5, 7 and 10-12 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

A. Claims 1, 5, 10 and 11

Claim 1, from which claims 5, 10 and 11 depend, has been amended, the phrase "glyphosate-based active ingredient" having been deleted. As amended, claim 1 is now

directed to a composition which comprises "N-(phosphonomethyl)glycine, or a salt thereof."

In view of the foregoing, Applicant respectfully submits that the rejection of claim 1 is obviated. Reconsideration is therefore respectfully requested. Further, in as much as claims 5, 10 and 11 depend from claim 1, reconsideration of the rejection of these claims is requested, as well.

B. Claims 7 and 12

Claims 7 and 12 have been amended to clarify that the ratios referenced therein are weight ratios. In view thereof, reconsideration of the rejection of these claims is therefore respectfully requested.

III. 35 U.S.C. §112, First Paragraph

Reconsideration is respectfully requested of the rejection of claims 1-3, 5-7 and 10-12 under 35 U.S.C. §112, first paragraph as being based on a disclosure which is not enabling.

A specification must be taken as in compliance with the enablement requirement of 35 U.S.C. §112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for the enabling support. (See, e.g., *In re Marzocchi*, 439 F.2d 220, 223-4 (CCPA 1971); see also MPEP §2164.04). As a result, the burden rests on the Patent Office to establish a *prima facie* case of nonenablement, which requires the Office to provide acceptable evidence or reasoning inconsistent with the contested statements. (*Id.*; see also *In re Strahilevitz*, 668 F.2d 1229, 1232.)

In this instance, Applicant respectfully submits that the Office has failed to establish a *prima facie* case of nonenablement with respect to the invention as defined by claim 1-3, 5-7 and 10-12, because an essential or critical element of the invention as claimed is not omitted. More specifically, contrary to the Office's assertion, the specification does not indicate that use of the claimed ingredients (i.e., N-

(phosphonomethyl)glycine, or a salt thereof, and a fatty acid) must be "at concentrations below what is recommended for herbicidal activity of each ingredient alone." Evidence that this limitation is in fact not critical to the invention as claimed can be found in the specification, for example, on page 9, line 26 to page 10, line 5. In this passage, it is clear that the claimed concentration range of, for example, glyphosate overlaps with the recommended application concentration thereof, which is said to be in the range of 1 to 2 percent by weight. Obviously, if "less than the recommended concentration" were intended to be essential to the invention, the concentration disclosed and claimed would not overlap the recommended concentration.

In view of the foregoing, Applicant respectfully submits that claim 1 satisfies the requirements of 35 U.S.C. §112, first paragraph. Favorable reconsideration of the rejection of this claim is therefore requested. Additionally, in as much as claims 2, 3, 5-7 and 10-12 dependent directly or indirectly from claim 1, favorable reconsideration of the rejection of these claims is also requested.

IV. Rejection Under 35 U.S.C. §103

A. Claims 1-3, 5-7, 10 and 11

Reconsideration is requested of the rejection of claims 1-3, 5-7, 10 and 11 under 35 U.S.C. §103 as being unpatentable over the combined teachings of Wells (Plant Protection Quarterly, '89), Franz (U.S. Patent No. 3,977,860), Franz (*The Herbicide Glyphosate*, '85), and Puritch et al. (PCT Application No. WO 89/03178) in view of Sampson (U.S. Patent No. 4,436,547) and Kuchikata et al. (PCT Application No. WO 90/07275).

Applicant understands the Office's rejection to be based upon the finding that (i) the herbicidal combination of glyphosate and a fatty acid is known (in view of Wells, and further in view of Sampson); (ii) the herbicidal combination of a glyphosate salt and a fatty acid is known (in view of Kuchikata et al.); (iii) glyphosate is a known herbicide (in view of Franz, U.S. Patent No. 3,997,860), and furthermore a well-known translocating herbicide (in view of Franz, *The Herbicide Glyphosate*); and, (iv) the herbicidal combination of a translocating ammonium nitrate, sulfate or sulfamate with a fatty acid,

at a concentration within the range claimed, is known (in view of Puritch et al.). Based on these findings, the Office then appears to have concluded the claimed composition is obvious because one of ordinary skill in the art would have been motivated to replace what is described as a translocating, herbicidal ammonium compound in the composition of Puritch et al. with a glyphosate salt, which is a known translocating herbicide, because of the teachings of Wells and Franz, and further the teachings of Sampson and Kuchikata et al., in order to obtain a composition having a glyphosate and fatty acid concentration within the ranges claimed. Applicant respectfully disagrees with this conclusion.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. And third, the prior art reference must teach or suggest all the claim limitations. MPEP §2142. With all due respect, the Office has failed to establish a *prima facie* case of obviousness because these requirements have not been met.

As amended, claim 1 is directed to an aqueous composition which comprises:

> N-(phosphonomethyl)glycine, or a salt thereof, present at **a concentration in the range of about 0.08 to 2.0 percent by weight** of a ready-to-use composition; and
>
> a saponified or non-saponified fatty acid-based active ingredient present at **a concentration in the range of about 0.5 to 3.0 percent by weight** of a ready-to-use composition.

In contrast, Wells fails to disclose or suggest such a composition; specifically, Wells fails to disclose a composition having a concentration of a fatty acid-based active ingredient which is in the range claimed. Rather, Wells simply discloses a series of compositions, each of which comprises glyphosate and an adjuvant of some kind. Although one of the adjuvants, "Activator 90," does contain free fatty acids and is stated to enhance glyphosate activity, Applicant respectfully submits that, contrary to the Office's assertions, Wells does not provide sufficient information to determine the fatty

acid concentration in such compositions, because the density of Activator 90 is not reported.

However, assuming *arguendo* Activator 90 has a density of not more than approximately 1.2 g/ml, Applicant further submits the compositions disclosed by Wells have a fatty acid concentration far below what is claimed. Specifically, if this density for Activator 90 is assumed, the compositions prepared by Wells would have a fatty acid content of no more than approximately 0.04 weight percent, which is significantly less than the minimum claimed concentration of about 0.5 weight percent.[1]

Like Wells, Franz (in either U.S. Patent No. 3,977,860 or *The Herbicide Glyphosate*), Sampson and Kuchikata et al. also fail to disclose or suggest a composition as claimed. More specifically, none of these references disclose or suggest a composition having a fatty acid concentration within the range claimed. Furthermore:

1. Franz (U.S. Patent No. 3,977,860) fails to disclose a composition which comprises both N-(phosphonomethyl)glycine, or a salt thereof, and a fatty acid. In fact, Franz does not even make reference to fatty acids. Rather, Franz simply discloses that a glyphosate composition may additionally contain other herbicides or phytotoxicants.

2. Franz (*The Herbicide Glyphosate*) likewise fails to disclose a composition which comprises both N-(phosphonomethyl)glycine, or a salt thereof, and a fatty acid. In fact, Franz does not even make reference to fatty acids.

---

[1] Please noted that, as further detailed in attached Exhibit A, this concentration was calculated for the Wells sample having 0.22% v/v Activator 90 based on: (i) the information provided in the Wells article, in conjunction with the results of an analysis of "Activator 90" in which it was previously determined to have a fatty acid content of 14.5% (see the Declaration of Patrick J. McGinnity, attached as Exhibit B, which was first submitted to the Office on or about October 22, 1995 as part of the prosecution history of now abandoned U.S. Patent Application Serial No. 08/309,559, the present application being a continuation thereof); and, (ii) what is believed to be a conservatively high estimate for the density of Activator 90 (i.e., 1.2 g/ml).

3. Sampson discloses 8 classes of additives, one being fatty acids, that *may* be used with herbicides in order to achieve enhanced activity. Although glyphosate is mentioned as one herbicide that might benefit from the addition of a fatty acid thereto, it is to be noted that Sampson: (i) mentions glyphosate as part of a list with 23 other herbicides (see, e.g., column 4, lines 45-69); (ii) states that the herbicides in this list *may* benefit from the addition of a fatty acid thereto (see, e.g., column 4, line 40); and, (iii) provides no reference to *any* fatty acid concentration.

4. Kuchikata et al. disclose or suggest only the preparation of a dry formulation of glyphosate with a liquid surfactant. Although Kuchikata et al. state that the surfactant may be a fatty acid, it is to be noted that they (i) mention fatty acids generally within a larger list of surfactants that runs on for more than a page and covers nonionic, anionic, cationic and amphoteric surfactants (see, e.g., page 11, line 5 to page 12, line 21), (ii) do not provide any working examples of compositions that include glyphosate and a fatty acid, and (iii) make no reference to any fatty acid concentration.

Finally, Applicant respectfully submits the teachings of Puritch et al. cannot be used in combination with any or all of the above-noted references in an attempt to make up for the limited disclosure therein because one of ordinary skill in the art would not have been motivated to combine the cited references in this way. Specifically, Puritch et al. disclose or suggest only the use of a fatty acid with herbicidal ammonium compounds, such as ammonium nitrate, ammonium sulfate or ammonium sulfamate. Notably, no reference is made to glyphosate or the use thereof in combination with a fatty acid. Furthermore, one skilled in the art would not have been led to extend the teachings of Puritch et al. to the other cited references which teach the use of glyphosate for a number of reasons, including:

1. The mode of action of glyphosate is entirely different from the herbicidal ammonium compounds of Puritch et al. Glyphosate inhibits the EPSPS enzyme which is needed to provide amino acids, hormones and vitamins for cell viability. When this enzyme is inhibited, these compounds are not produced and, therefore, plant cells die. Stated a different way,

glyphosate is a molecularly site-specific herbicide. In contrast, the ammonium compounds disclosed by Puritch et al. are desiccants, which absorb water from the foliage of a plant in order to kill the foliage.

Notably, a desiccant does not provide the prolonged herbicidal effects like glyphosate, and thus allows for significant regrowth of the treated plant. Thus, one skilled in the art would not have expected a fatty acid to have the same effect with a herbicide having an entirely different mode of action, such as glyphosate.

2. Assuming, *arguendo*, the ammonium compounds of Puritch et al. translocate, translocation does not necessarily mean something is or is not a herbicide; for example, foliar herbicides work without translocating. Translocation indicates movement within a plant. Therefore, the mere statement that these ammonium compounds translocate is not enough to conclude they are analogous to glyphosate.

   Furthermore, according to Puritch et al. ammonium compounds, like ammonium sulfamate, must be used in very high concentrations to be effective because it is slowly absorbed into a plant and translocated (see, e.g., page 2, lines 16-20). The combination of an ammonium compound and a fatty acid is said to provide a "unique coaction" (i.e., synergy), resulting in higher kill rates and a more sure kill (see, e.g., page 3, lines 12-13). Accordingly, one skilled in the art would not have been motivated to substitute glyphosate for one of the ammonium compounds disclosed by Puritch et al. because (i) glyphosate provides a high kill rate at a low concentration for a broad spectrum of weeds, and (ii) there would be no reasonable likelihood of success that plant control would improve with such a substitution.

In view of the foregoing, Applicant respectfully submits the Office has failed to meet its burden in establishing a *prima facie* case of obviousness because there is clearly no suggestion or motivation, either in the cited references or in the knowledge generally available to one of ordinary skill in the art, to combine the cited references. As a result, it cannot fairly be said that the prior art references which are properly cited

teach or suggest all the limitations of claim 1, because none disclose or suggest a composition comprising glyphosate with the claimed concentration of a fatty acid. Favorable reconsideration of the rejection of claim 1 is therefore requested.

Additionally, in as much as claims 2, 3, 5-7, 10 and 11 depend directly or indirectly from claim 1, favorable reconsideration of the rejection of these claims is also requested.

B. Claim 12

Applicant respectfully acknowledges the Office's finding that claim 12 has been found patentable over the cited references, to the extent that claim 12 is limited to the subject matter elected and currently under consideration.

VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS:

Claim 1 was amended as follows:

1. (once amended) An aqueous herbicidal composition, comprising:

[a glyphosate-based active ingredient] N-(phosphonomethyl)glycine, or a salt thereof, present at a concentration in the range of about 0.08 to 2.0[%] percent by weight of a ready-to-use composition; and

a saponified or non-saponified fatty acid-based active ingredient present at a concentration in the range of about 0.5 to 3.0 percent by weight of a ready-to-use composition.

Claim 2 was amended as follows:

2. (once amended) The composition of claim 1 wherein the [glyphosate-based active ingredient is selected from the group consisting of N-(phosphonomethyl)glycine and] composition comprises the isopropyl amine salt of N-(phosphonomethyl)glycine.

Claim 7 was amended as follows:

7. (once amended) The composition of claim 2 wherein the fatty acid active ingredient comprises pelargonic and capric acids, at a weight ratio of about 1:1, and an emulsifier component.

Claim 8 was amended as follows:

8. (once amended) The composition of claim 2 wherein the fatty acid active ingredient comprises the sodium or potassium salts of pelargonic acid, capric acid and coconut fatty acid, the fatty acid salts being present at a weight ratio of about 1:1:2.

Claim 11 was amended as follows:

11. (twice amended) A method of controlling the growth of unwanted vegetation, comprising the step of [steps providing the herbicidal composition of claim 1 and] applying the herbicidal composition of claim 1 to the unwanted vegetation at a volume of 47 to 374 liters per hectare.

Claim 12 was amended as follows:

12. (once amended) The composition of claim 2 wherein the fatty acid active ingredient comprises the sodium or potassium salts of pelargonic acid, capric acid and lauric acid, the fatty acid salts being present at a weight ratio of about 1:1:2.

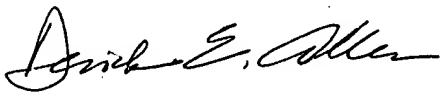
New claims 13 through 22 were added.

CONCLUSION

In view of the foregoing, favorable reconsideration and allowance of all pending claims is respectfully requested.

A check in the amount of $446.00 is enclosed ($410.00 for a two month extension of time and $36.00 for two additional dependent claims). The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account No. 19-1345.

Respectfully submitted,



Derick E. Allen, Reg. No. 43,468
SENNIGER, POWERS, LEAVITT & ROEDEL
One Metropolitan Square, 16th Floor
St. Louis, Missouri 63102
(314) 231-5400

X370

EXHIBIT A

A. Solution containing 0.125% (v/v) Activator 90

For a solution prepared by adding 0.125% (v/v) of Activator 90 adjuvant to a glyphosate solution used at 0.54 kg a.i./ha (see p.158 of the Wells article, third column under the heading "*Spraying of Plants*," and p.159, Table 1), the following calculations were used to estimate the concentration (wt%) of fatty acid therein:

1. wt% glyphosate =

$$\frac{(540 \text{ g a.i. glyphosate/ha})}{(60{,}000 \text{ g } H_2O/\text{ha})} \times 100 = 0.9 \text{ wt\%}$$

2. wt% fatty acid =

   a. 0.125% (v/v) = 1.25 ml in 1000 ml of solution;

   b. assuming a density of 1.2 g/ml, the weight of Activator 90 in the solution is:

      1.25 ml x 1.2 g/ml = 1.5 g;

   c. assuming the total weight of the solution is approximately 1000 g, then the wt% of Activator 90 in the solution is:

      (1.5 g/1000 g) * 100 = 0.15 (wt%);

      and,

EXHIBIT A

d. assuming the concentration (wt%) of fatty acid in Activator 90 is 14.5%, per attached Exhibit B, then the wt% of fatty acid in the solution is:

$$(0.0015 \times 0.145) \times 100 = 0.0218 \text{ wt\%}.$$

B. Solution containing 0.22% (v/v) Activator 90

For a solution as described above, except that it was prepared by adding 0.22% (v/v) of Activator 90 rather than 0.125% (v/v), the resulting wt% of fatty acid therein would be 1.76 times this amount, or 0.038 wt%, given that it contains 1.76 times more Activator 90.